

**Aula 2.....**

**Exercício 3:** *Represente os enrolamentos de uma máquina trifásica de 2 pólos do tipo concêntrico com  $N_r = 12$  ranhuras.*

$$\tau_p = \frac{N_r}{P} = \frac{12}{2} = 6 \text{ ranhuras para um passo polar (180ºel.)}$$

$$q = \frac{N_r}{P \cdot m} = \frac{12}{2 \cdot 3} = 2 \text{ ranhuras / pólo / fase}$$

$$k = m \cdot \frac{P}{2} = 3 \cdot \frac{2}{2} = 6 \text{ grupos de bobinas (total do estator)}$$

O passo polar também pode ser expresso como:

$$\tau_p = 1:6:8$$

(entra na ranh. 1 e volta na 8)  
(entra na ranh. 2 e volta na 7)

Cálculo do ângulo entre ranhuras:      6 ranhuras      =180ºel  
                                                         1 ranhura           = ?

**1 ranhura = 30ºel**  
**4 ranhuras = 120ºel**

### Ex.: 3 - Enrolamento concêntrico de camada única - 2 pólos, 12 ranhuras

Passo polar

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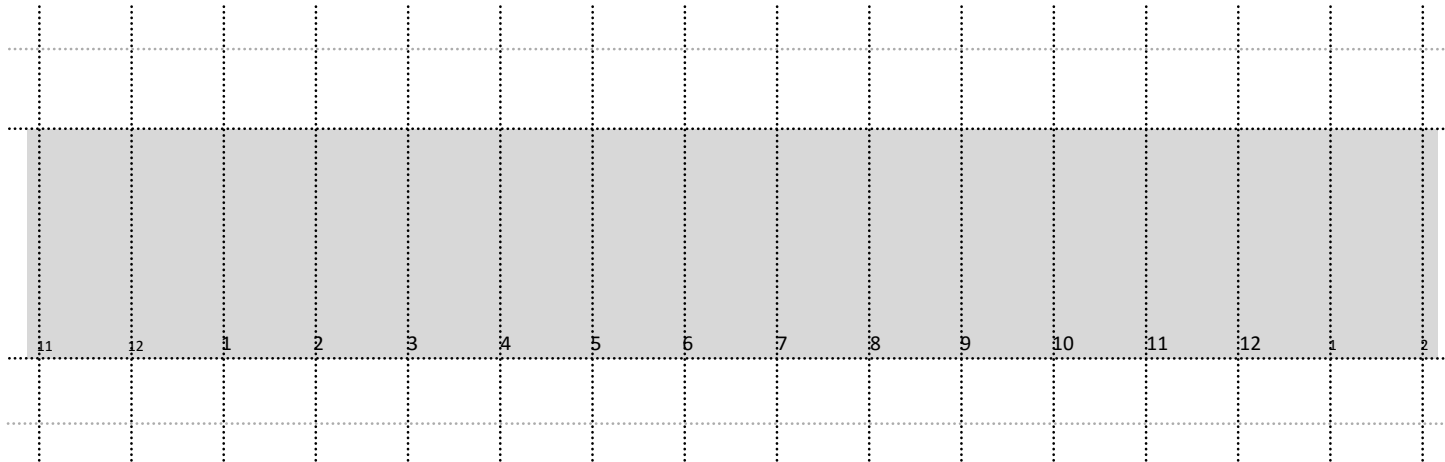
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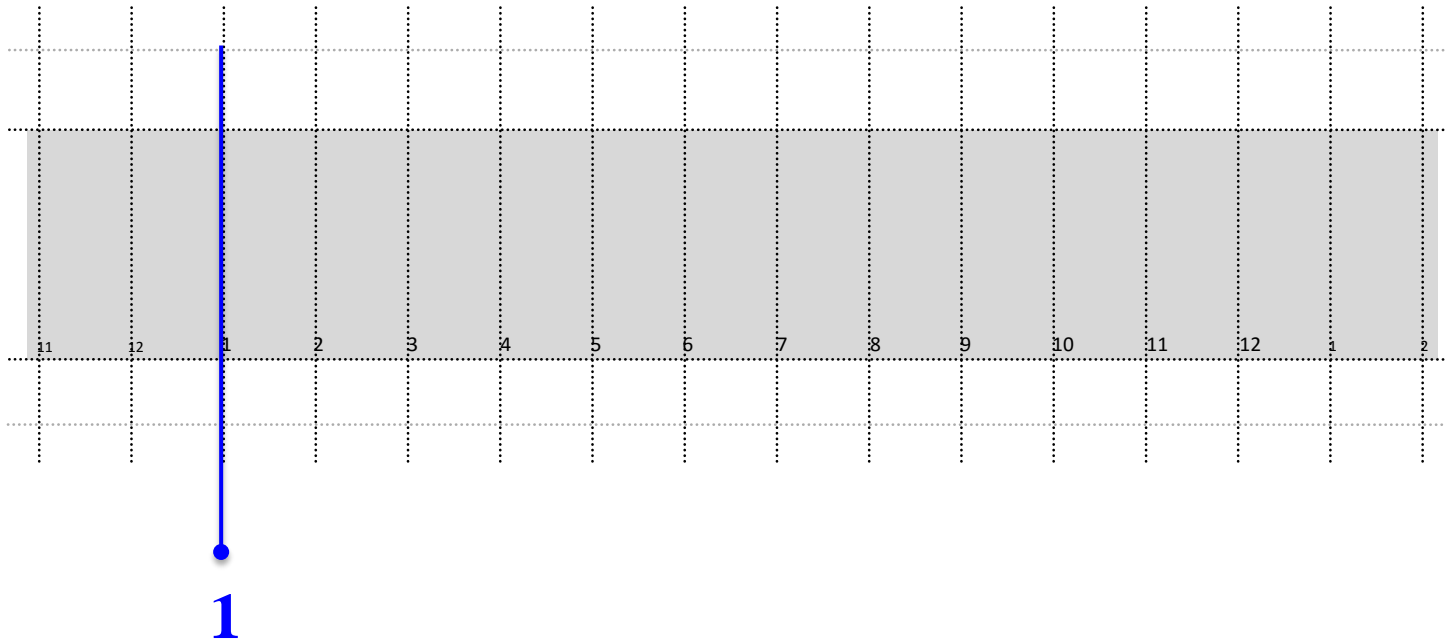
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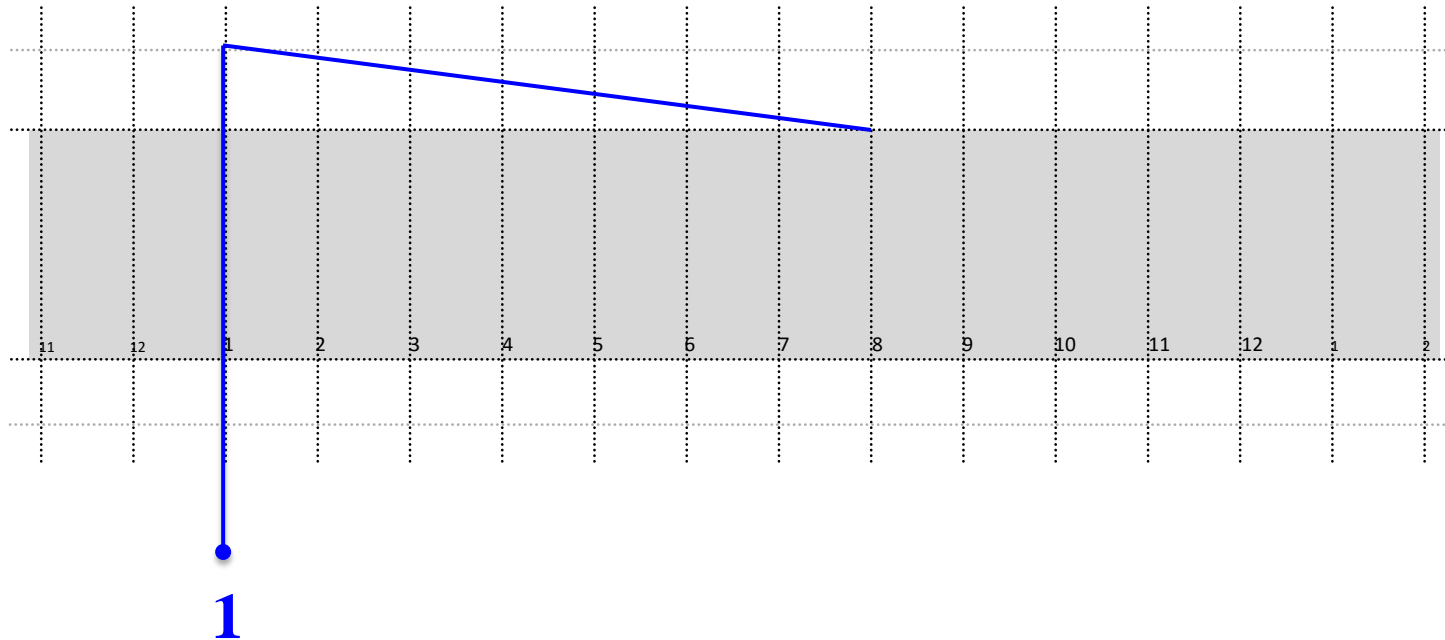
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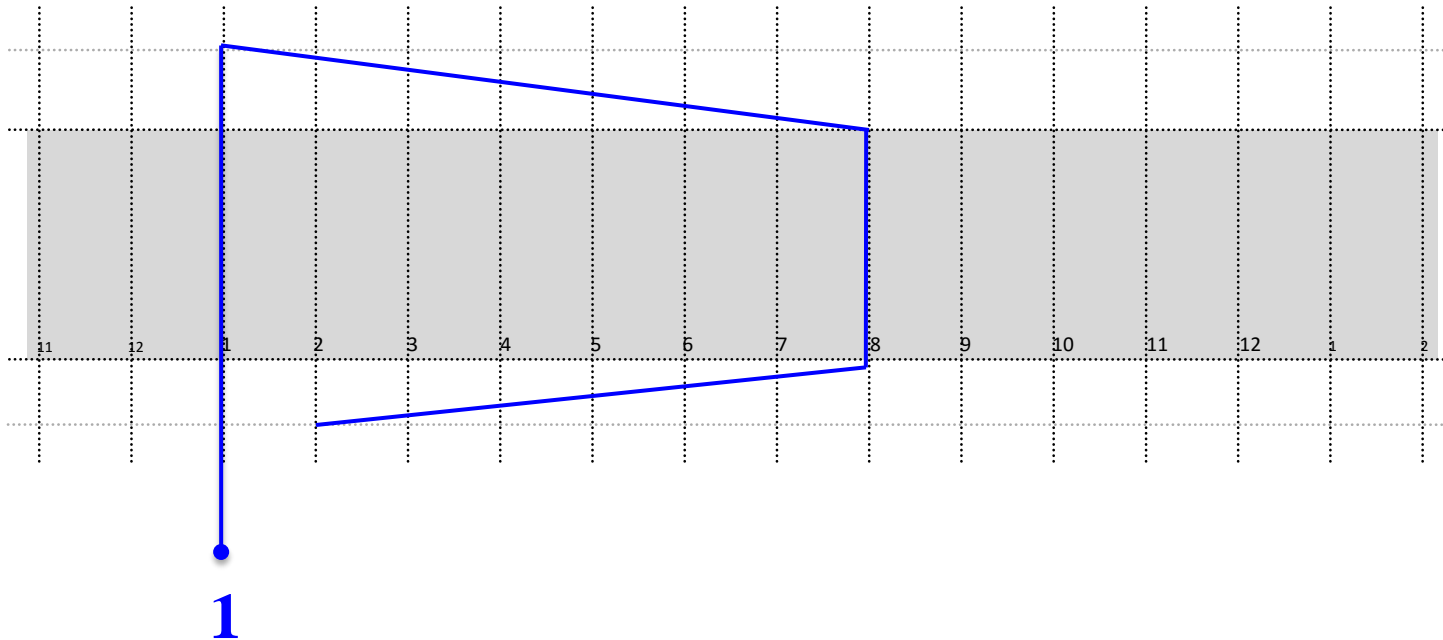
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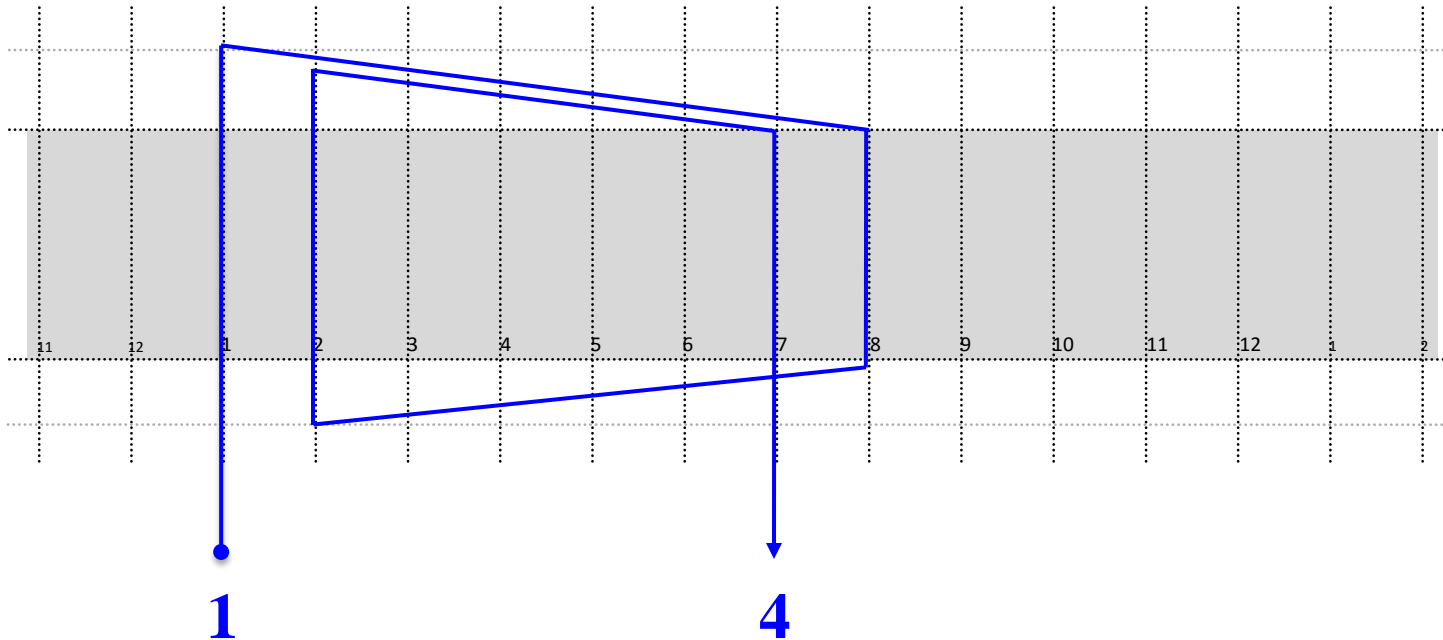
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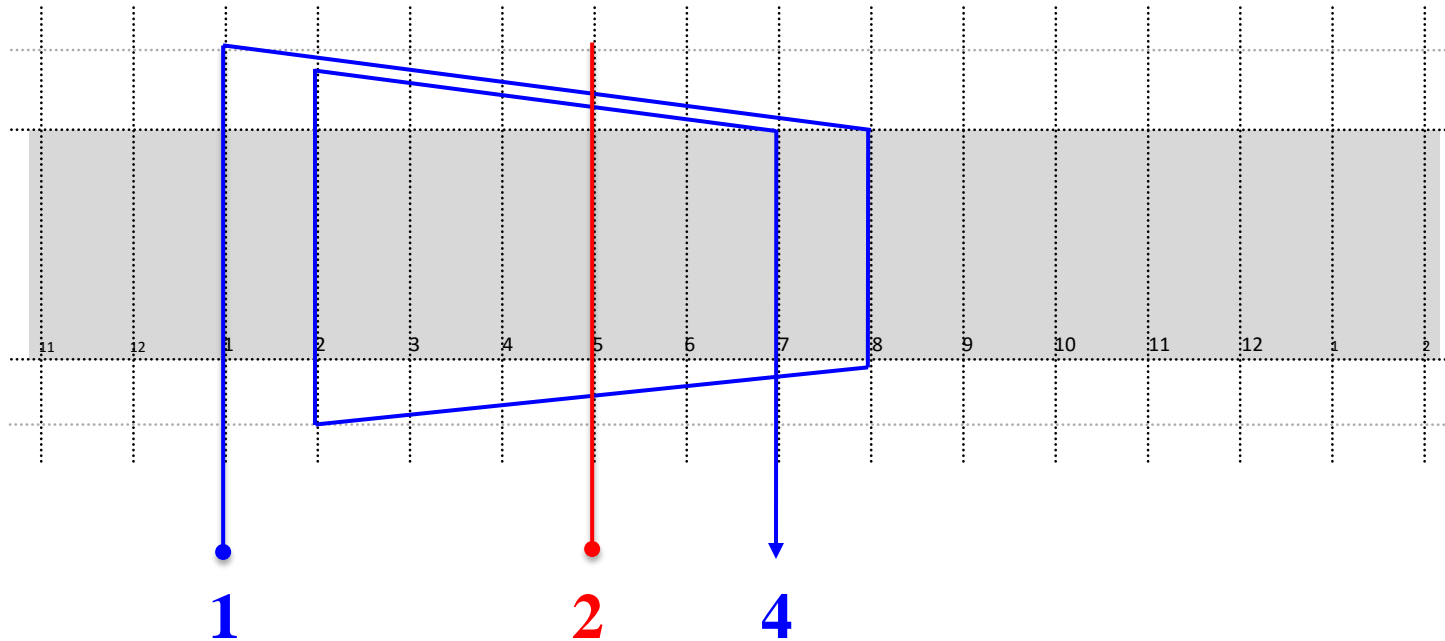
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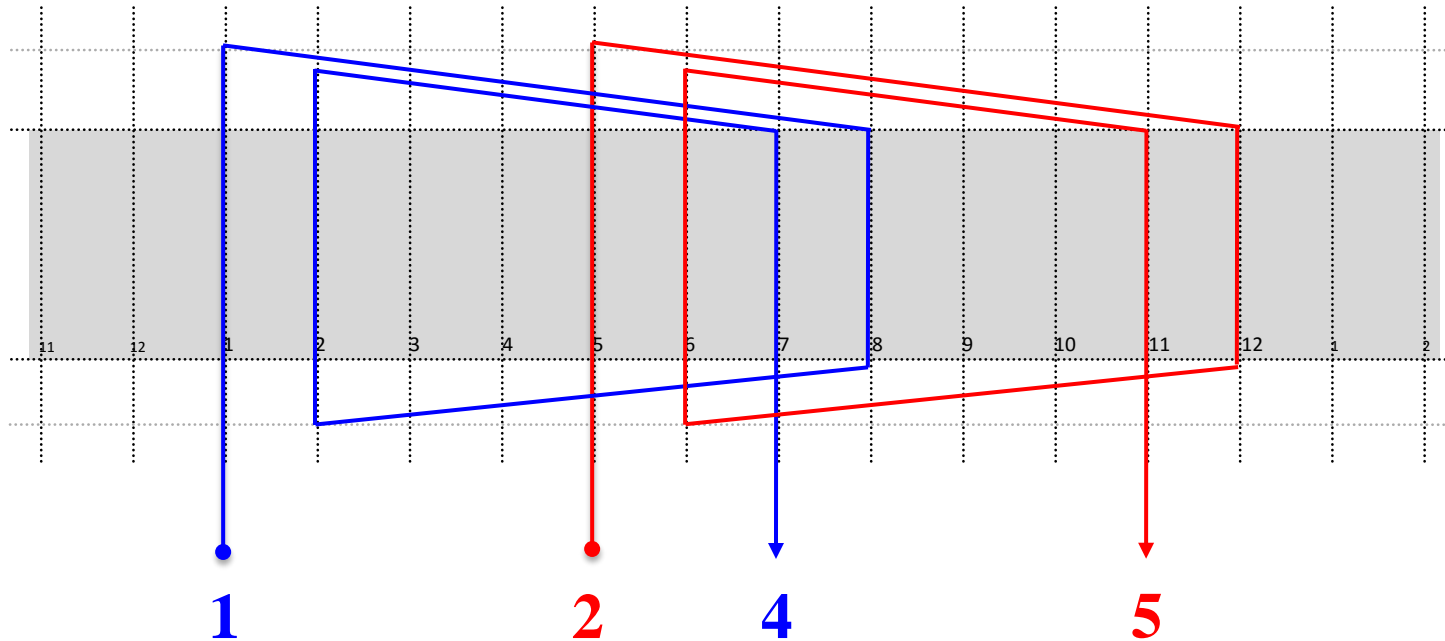
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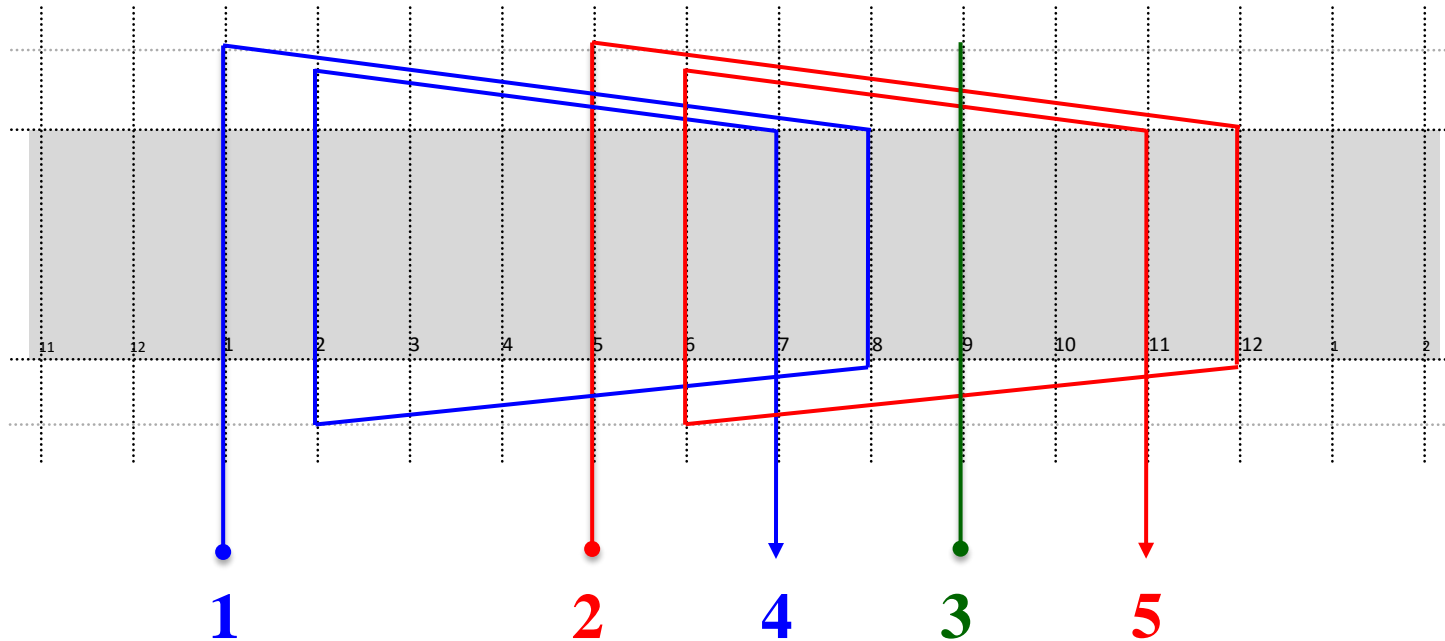
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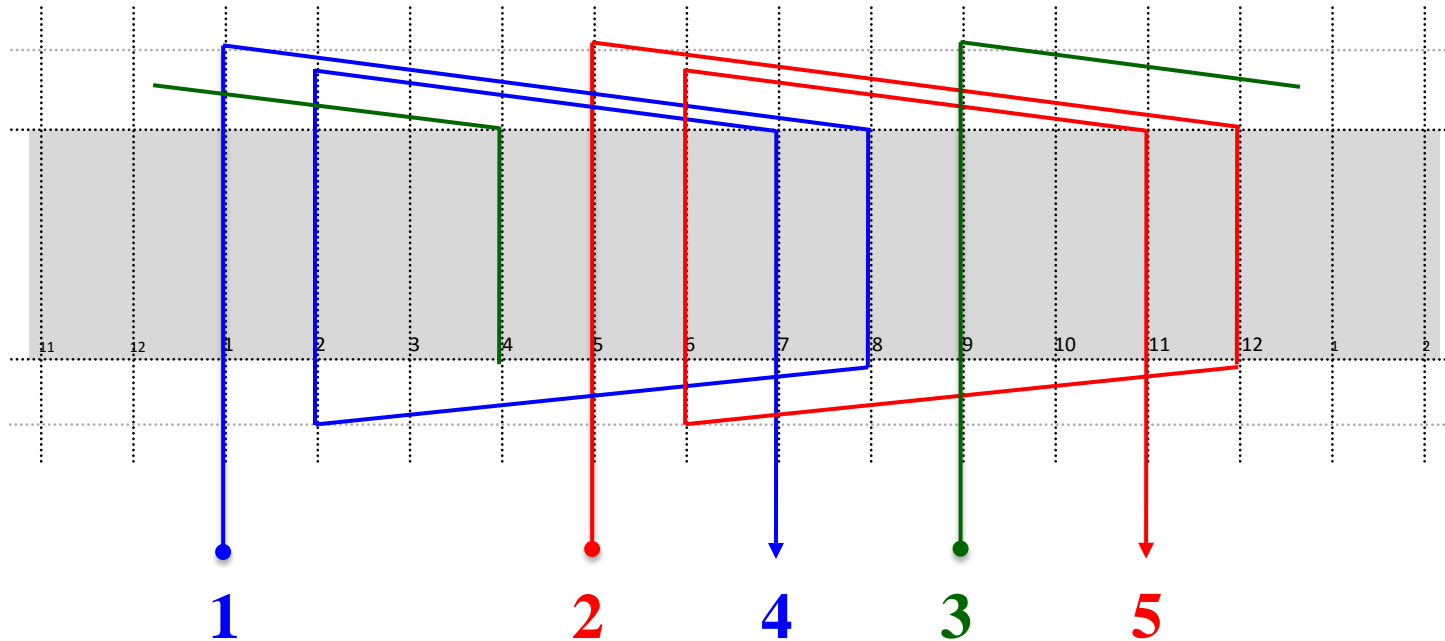
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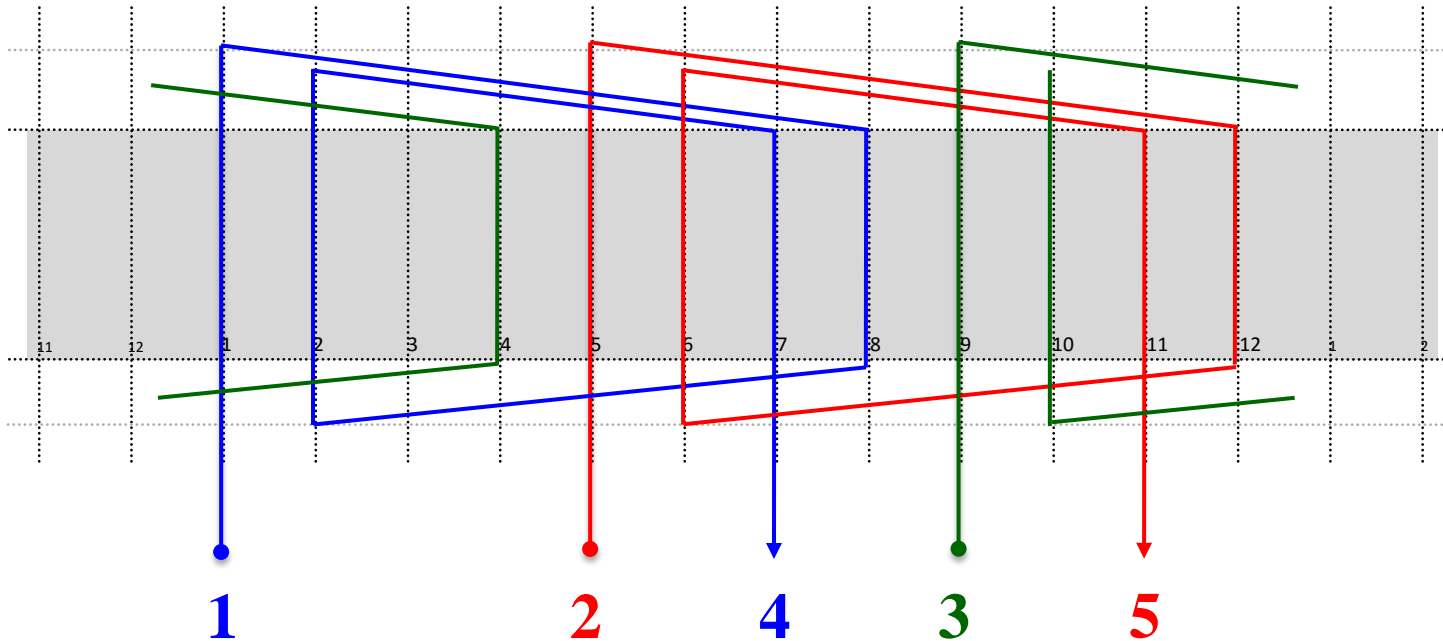
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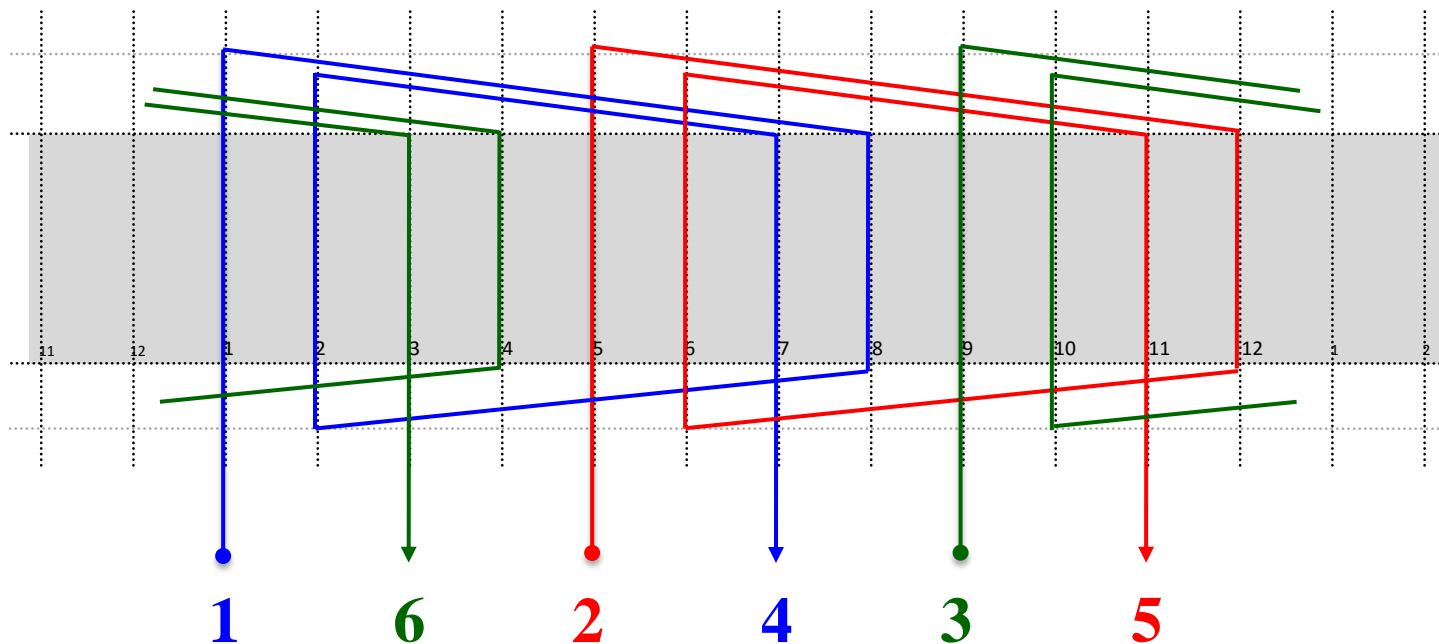
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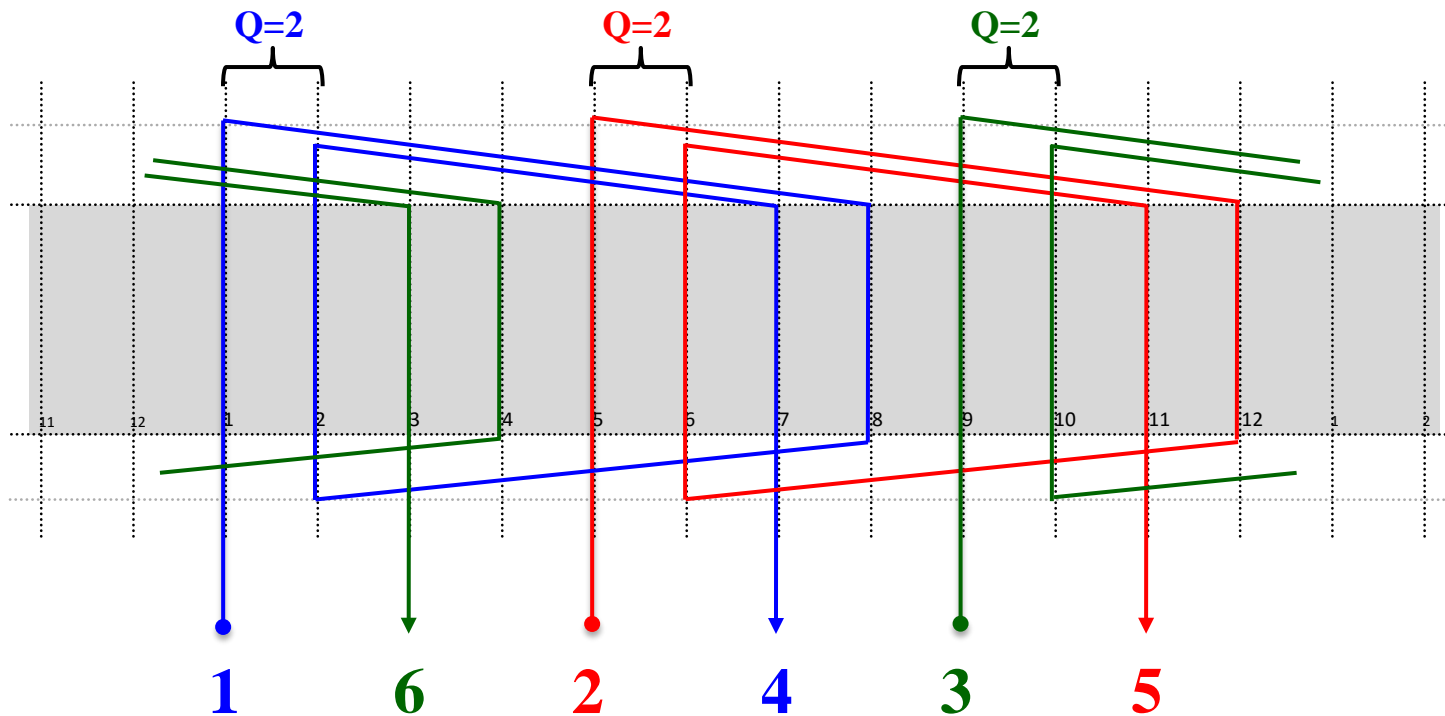
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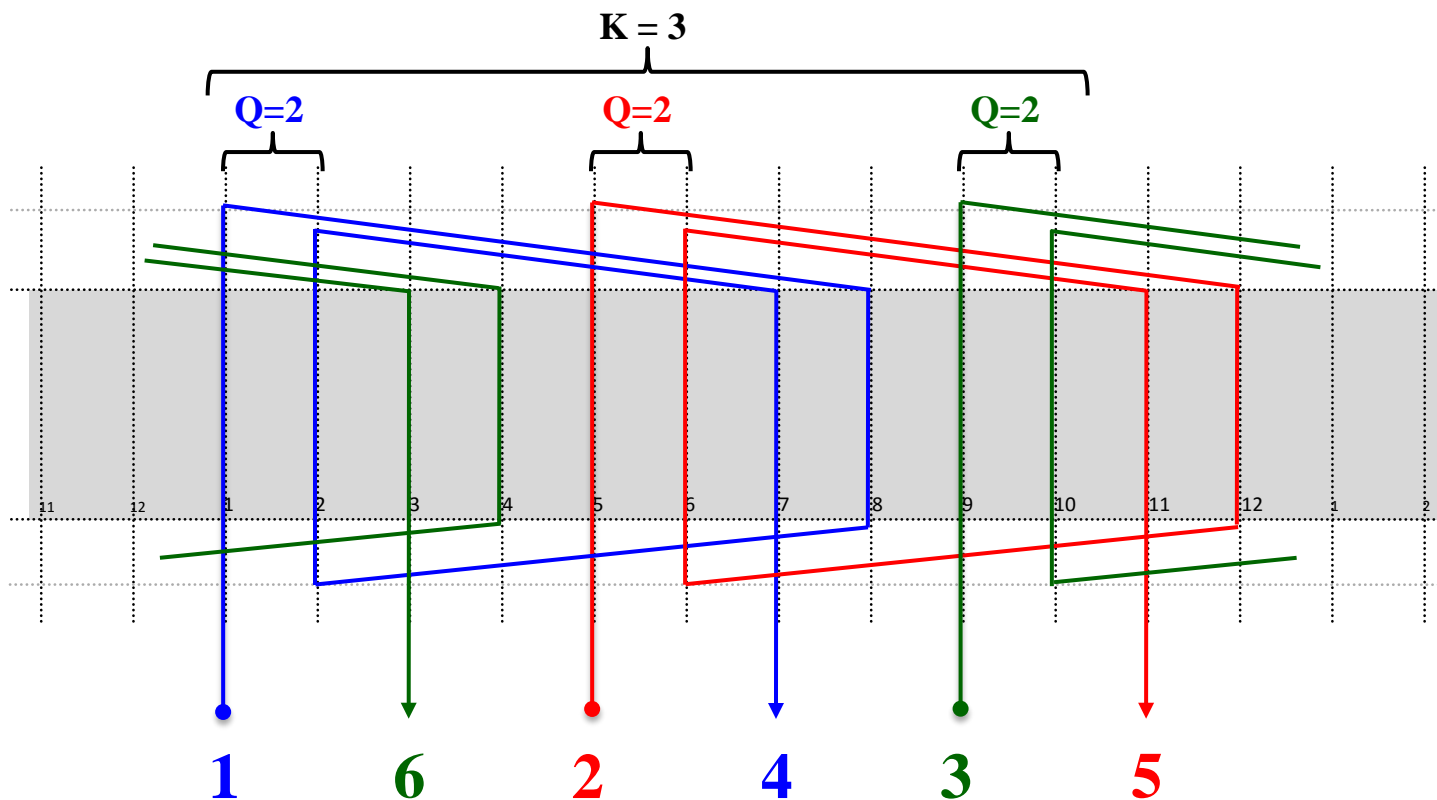
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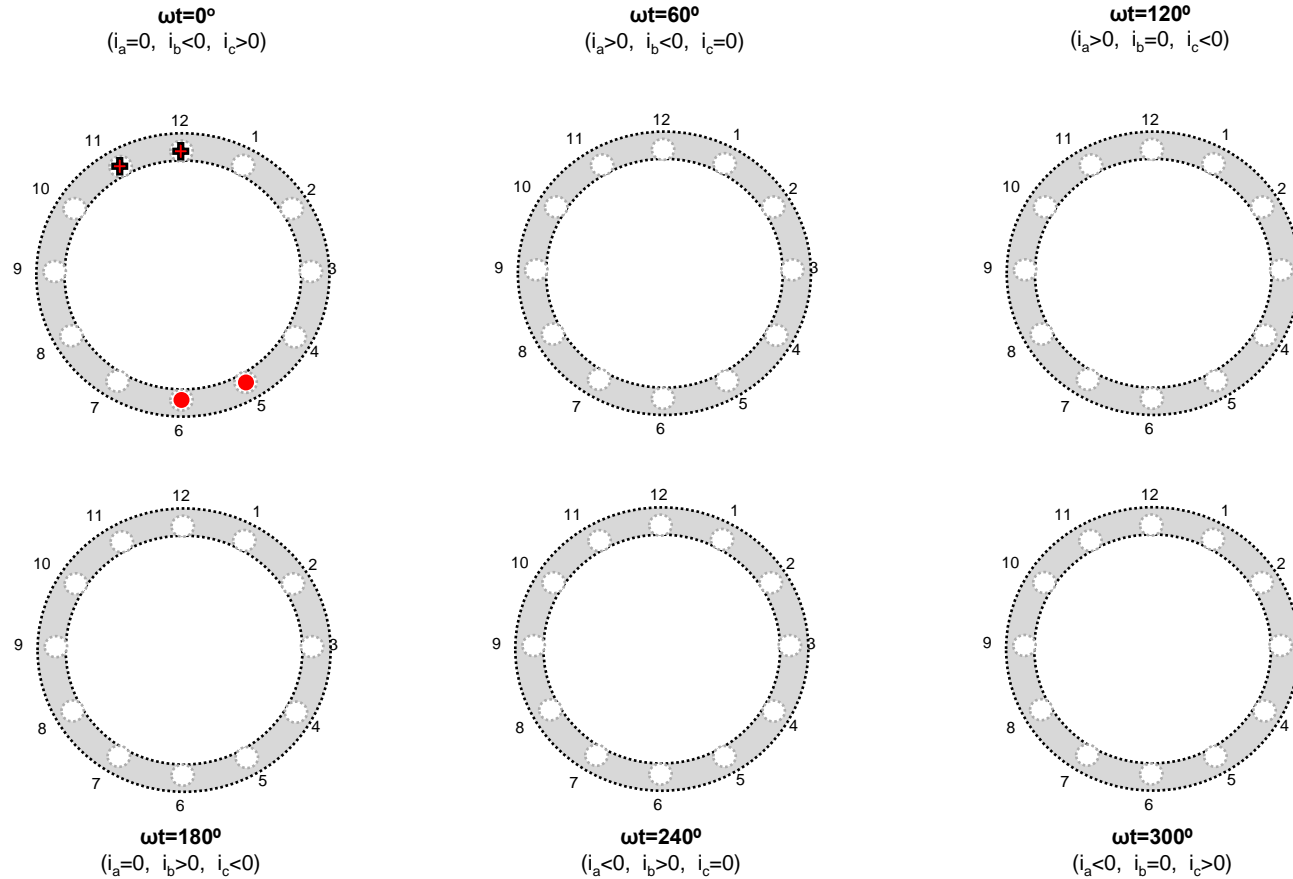
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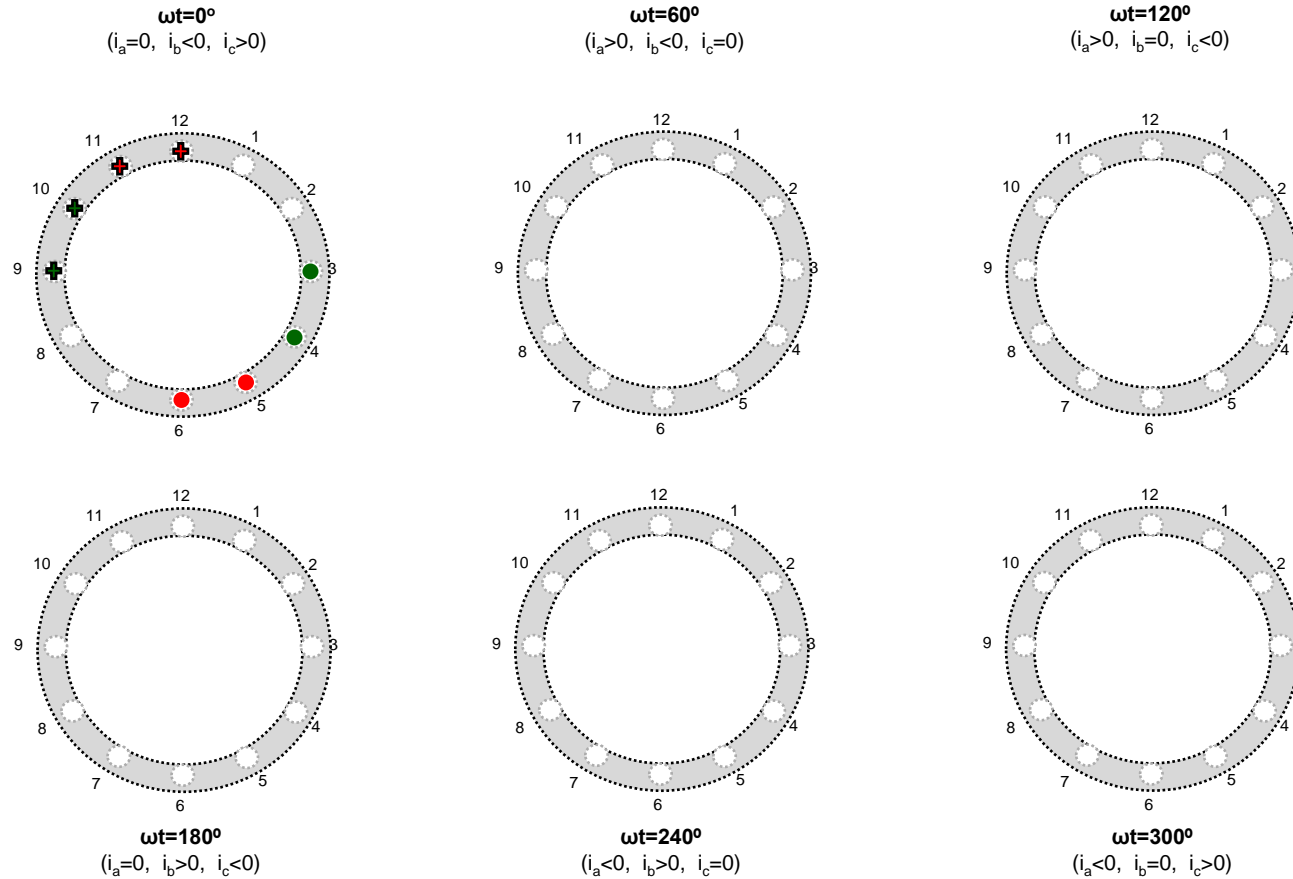
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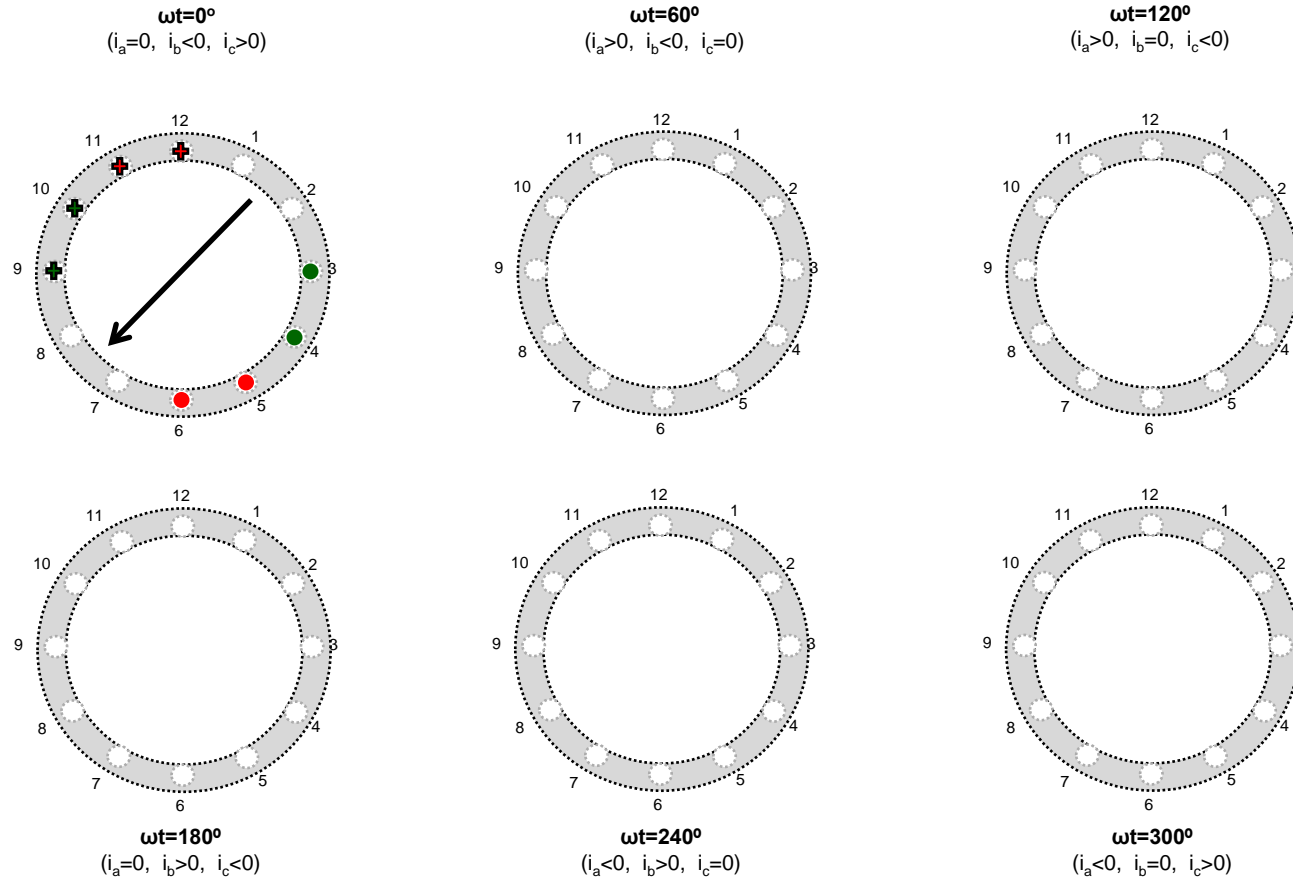


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